

CLAIMS

1. A service apparatus implemented in a machine, comprising:
 - a service request receiver to receive a request for a first service;
 - a storage;
- 5 a set of virtual machines stored in the storage, each virtual machine to implement a service;
 - a service manager to manage the set of virtual machines; and
 - a transmitter to return an access to a first virtual machine in the set of virtual machines as a response to the request for the first service.
- 10 2. A service apparatus according to claim 1, wherein:
 - the service apparatus further comprises:
 - a database of service provider data; and
 - an image constructor to use the database to construct an image; and
 - 15 the service manager is operative to install the image as the first virtual machine in the set of virtual machines.
3. A service apparatus according to claim 1, wherein:
 - the service apparatus further comprises a database of images; and
 - 20 the service manager is operative to install a first image from the database of images as the first virtual machine in the set of virtual machines.
4. A service apparatus according to claim 1, further comprising an archiver to archive the virtual machine.
- 25 5. A service apparatus according to claim 1, further comprising a deleter to delete the virtual machine.
6. A service apparatus according to claim 1, the service manager including a table stored in the storage, the table to indicate a state for each virtual machine in the set of virtual machines.

7. A service apparatus according to claim 1, further comprising a list of services offered by the service apparatus, the list of services to include at least the services offered by each virtual machine in the set of virtual machines.

5 8. A service apparatus according to claim 1, wherein at least one of the virtual machines implements the service and a second service.

9. A system, comprising:
a network;
10 a service request receiver to receive a request for a first service;
a list of services offered;
a service manager to manage a set of virtual machines; and
a transmitter to return an access to a first virtual machine in the set of virtual machines as a response to the request for the first service.

15 10. A system according to claim 9, further comprising a client machine coupled to the network, the client computer to send the request.

11. A system according to claim 9, further comprising at least one farm machine,
20 each farm machine including:
a storage; and
at least one virtual machine from the set of virtual machines, stored in the storage of the farm machine, each virtual machine to implement a service.

25 12. A system according to claim 9, further comprising a list of services offered by the system, the list of services to include at least the services offered by each virtual machine in the set of virtual machines.

13. A system according to claim 9, further comprising a service apparatus, the
30 service apparatus to include the service request receiver, the service manager, and the transmitter.

14. A system according to claim 9, further comprising:
a service apparatus, the service apparatus to include the service request receiver and
the transmitter;
at least one farm machine, each farm machine to include:
5 a storage; and
at least one virtual machine from the set of virtual machines, stored in the
storage of the farm machine, each virtual machine to implement a service; and
a management machine, the management machine to include the service manager.

10 15. A system according to claim 9, wherein at least one of the virtual machines in
the set of virtual machines implements a first service and a second service.

16. A method, comprising:
receiving a request for a service;
15 accessing a list of services offered by a set of virtual machines;
determining if the requested service is in the list of services; and
if the requested service is in the list of services:
determining an identifier for the virtual machine offering the requested
service; and
20 returning the identifier for the virtual machine offering the requested service.

17. A method according to claim 16, further comprising, if the requested service is
not in the list of services:
25 creating an image for a new virtual machine that offers the requested service;
installing the image for the new virtual machine; and
returning an identifier for the new virtual machine.

18. A method according to claim 17, further comprising adding the requested
service to the list of services.

30 19. A method according to claim 18, wherein adding the requested service
includes identifying the new virtual machine in the list of services as offering the requested
service.

20. A method according to claim 17, wherein installing the image includes: selecting one of a set of machines to support the new virtual machine; and installing the image for the new virtual machine in the selected machine.

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21. A method according to claim 20, wherein selecting one of a set of machines includes selecting the selected machine to balance loads on the machines in the set of machines.

10 22. A method according to claim 17, wherein creating an image includes selecting a combination of software packages that define the new virtual machine to offer the requested service.

15 23. A method according to claim 17, wherein creating an image includes copying the image for the new virtual machine from a set of pre-constructed images.

24. A method according to claim 16, wherein:
determining the virtual machine offering the requested service includes:
determining that a new virtual machine should offer the requested service;
20 creating an image for the new virtual machine; and
installing the image for the new virtual machine;
returning an identifier for the virtual machine includes returning an identifier for the new virtual machine.

25 25. A method according to claim 16, wherein:
determining the virtual machine offering the requested service includes:
determining a plurality of virtual machines offering the requested service; and
selecting one of the plurality of virtual machines; and
returning an identifier for the virtual machine includes returning the identifier for the
30 selected virtual machine.

26. A method according to claim 16, wherein determining the virtual machine includes:

determining if the virtual machine is active, sleeping, or archived; and
if the requested machine is sleeping or archived, activating the virtual machine.

27. An article, comprising:

5 a storage medium, said storage medium having stored thereon instructions, that, when
executed by a machine, result in:

receiving a request for a service;

accessing a list of services offered by a set of virtual machines;

determining if the requested service is in the list of services; and

10 if the requested service is in the list of services:

determining the virtual machine offering the requested service; and

returning an identifier for the virtual machine offering the requested service.

28. An article according to claim 27, the storage medium further including

15 instructions, that when executed by the machine, result in, if the requested service is not in
the list of services:

creating an image for a new virtual machine that offers the requested service;

installing the image for the new virtual machine; and

returning an identifier for the new virtual machine.

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29. An article according to claim 28, the storage medium further including

instructions, that when executed by the machine, result in, adding the requested service to the
list of services.

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30. An article according to claim 29, wherein adding the requested service

includes identifying the new virtual machine in the list of services as offering the requested
service.

31. An article according to claim 28, wherein installing the image includes:

30 selecting one of a set of machines to support the new virtual machine; and

installing the image for the new virtual machine in the selected machine.

32. An article according to claim 31, wherein selecting one of a set of machines includes selecting the selected machine to balance loads on the machines in the set of machines.

5 33. An article according to claim 28, wherein creating an image includes selecting a combination of software packages that define the new virtual machine to offer the requested service.

10 34. An article according to claim 28, wherein creating an image includes copying the image for the new virtual machine from a set of pre-constructed images.

15 35. An article according to claim 27, wherein:
determining the virtual machine offering the requested service includes:
determining that a new virtual machine should offer the requested service;
creating an image for the new virtual machine; and
installing the image for the new virtual machine;
returning an identifier for the virtual machine includes returning an identifier for the new virtual machine.

20 36. An article according to claim 27, wherein:
determining the virtual machine offering the requested service includes:
determining a plurality of virtual machines offering the requested service; and
selecting one of the plurality of virtual machines; and
returning an identifier for the virtual machine includes returning the identifier for the
25 selected virtual machine.

37. An article according to claim 27, wherein determining the virtual machine includes:
determining if the virtual machine is active, sleeping, or archived; and
30 if the requested machine is sleeping or archived, activating the virtual machine.